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ABSTRACT

A total of 89 black, low-income children between 3 and 5 years of age participated in a study of the relationship between self-concept and general cognitive ability. Subjects attended three state-operated day care programs in the midsouth. The Preschool Self-Concept Pictorial Test and McCarthy Scale of Children's Abilities were administered. Findings indicated no significant correlation between self-concept and general cognitive ability. There was no significant correlation by gender. It is concluded that findings are generally consistent with previous findings. Findings are discussed in terms of the young child's developing abilities and experiential influences. Twenty-six references are provided. (Author/RH)

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The Relationship Between Self-Concept and Cognitive Abilities in Black, Low-income Preschool Children

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Abstract

The study investigated the relationship between self-concept and general cognitive ability in black, low-income preschool children. Subjects were 89 (46 boys and 43 girls) 3-5 years old black, low-income children attending three state operated day care programs in the mid-south. The Preschool Self-Concept Pictorial Test and McCarthy Scale of Children's Abilities were instruments used in the study. It was found that there is no significant correlation (r=0.07, df=87) between self-concept and general cognitive ability. Also, no significant correlation was found by gender (for girls, r=-0.16, df=41; for boys, r=0.21, df=44). The findings of this study are consistent with previous research in general and are discussed in terms of the young child's developing abilities and experiential influences.

Introduction

Since the racial awakening of the 1960's and its enhanced awareness of ethnicity, black Americans have been increasingly concerned about the self images of their children. There has been a consistent lack of role models provided for these children in the television media, children's books, and represented in children's toys. According to Henderson (1984), black children may become confused about their skin color, facial features, hair texture and cultural character.

Educators must be sensitive to this image problem and become aware of the many ways in which black children are "turned off" and "pushed out" of school (Hale-Benson, 1986). Since attending preschool or day care may be a child's first experiences outside of the home by him/herself for any period of time, preschool has an unique role in the development and perception of the child. One key to understanding development and self-perception of a child is through their self-concept. As Americans move toward the 21st century, a dramatic increase in the number of children to be served in the early childhood setting will occur. A large proportion of these children will be from lower or working class families, or members of non-white racial groups (Washington, 1988). The trends in school enrollment in the nation's 25 largest school districts illustrate the growing number of non-white children. In 1950, one in 10 students in these school systems was a minority child; today minorities constitute the majority of school enrollments in 23 out of 25 of the nation's largest cities (McNett, 1983). This expanding enrollment of

black children will challenge educators to maximize the cognitive abilities and social-emotional aspects of children in ways compatible with cultural diversity.

The social-emotional aspect of children include the perceptions, feelings, and attitudes that they have about themselves. The terms self-concept and self-image are often used to describe a global conception of self. This global self-concept is made up of many dimensions (Marshall, 1989). A child develops a sense of worth or self-value about each of these dimensions. Harter (1982) pointed out that the perceived competence of a child is an assessment across the different domains; cognitive, social and physical, and general self-worth. To begin to understanding how the domains relate to each other, this study investigated the relationship between self-perceptions or self-concept and cognitive abilities in black children. For the purpose of this study, self-concept was defined as social emotional characteristics related to the developmental tasks of this age group (Woolner, 1966). Cognitive abilities were defined as the abilities acquired by a child as compared to that of his/her age group in overall cognitive functioning.

Review of Related Literature

Self-perceptions held by the child have been of special concern to educators since the 1960's, primarily because these concepts have not been clear in terms of their relevance to the educational setting. Many researchers believe there is a relationship between how one tends to view oneself and how effectively one functions in life (Purkey, 1970; Beane &

Lipka,1986). At what age are children's self-evaluations of actual abilities a reflection of their self-perceptions or a mirror of the perceptions of significant others' expectations and evaluations is an important question. Felson's (1985) research suggests that the reflected appraisals of peers are an important source of self-appraisals of physical attractiveness in 4th-8th grade children. Phillips' (1984) research raised questions concerning the illusion of incompetence among academically competent 5th graders. Likewise, Connell and Hardi (1987) showed the discrepancies between children's and teacher's evaluations of the children's academic competence in 4th-6th graders and that the children's self-esteem, motivation and coping were adversely affected by failing to comply with teacher expectations. These studies highlight the importance and the developmental impact of the child's self-perceptions, whether accurate or inaccurate, of how others see him/her.

The nature of these relationships, however is not fully understood nor can a cause and effect relationship be absolutely established. Purkey (1978) compared self-perception to a gyroscope that guides and influences behavior. Purkey (1983) maintainsed that even if research were to discover there is no direct relationship between self-perception and achievement, educators would still need to interact in ways beneficial to the child's development of views of self. Bean and Lipka (1984) in addressing this issue, stated that self-perceptions ought to be an educational issue not only because it is related to academic achievement, but also because self-perceptions are an integral part of human growth and development.

Some areas of educational research have included a number of studies involving the relationship between self-concept and academic achievement and the results have been contradictory. A meta-analysis by Hansford and Hattie (1984) explored the relationship between how persons perceive (self-concept, self-esteem) and their ability as assessed by performance/achievement measures. The meta-analysis includes published and unpublished research. Given the volume of information and the diversity of the literature, it was possible to find support for almost any viewpoint regarding the relationship between self-concept and performance.

According to Hansford and Hattie, some research (Campbell, 1981; West, Fish and Stevens, 1980) reported that a moderate relationship exists between self and measures of performance and achievement but that an initial assessment of the literature shows this relationship is neither precise nor clear. Although reporting a number of positive and significant relationships, Wylie (1979) warns that the correlations tend to be small in absolute terms, offering no support to the commonly accepted strong relationship between achievement and self-concept.

Much research has been done regarding this relationship in older elementary children but assessment of younger children presents more of a challenge. Maturational factors such as limited experiences, short attention span, rapid development and limited socialization skills play a key role in the assessment process. At the early childhood level, problems in measuring self-concept arise. Few formal instruments are appropriate for children younger than age eight due to developmental differences in children's

understanding and how they think about themselves (Damon & Hart, 1982). Young children also have difficulty in verbalizing abstract ideas such as self-concept (Marshall, 1989). Also, young children have not stabilized in the development of their self-concept even by age six (Burns, Boals, and Pruett, 1987). Engel (1959), as cited by Wylie (1961) found that stabilization occurred sometime earlier than the 8th grade. He found self-concept develops as a function of interaction of the individual with significant events in his experience. One important question deals with what factors influence self-concept at which period in the developing child.

According to Purkey (1970), there is a significant relationship between the self-concept and academic achievement at each grade level, and that change in one is associated with change in the other. He continues to state that this strong relationship gives us reason to assume that enhancing self-concept will improve the student's performance.

Race

Breeding, Miller and Porterfield (1982) report research with 128 low SES children of both sexes and three ethnic groups (Black, Anglo, and Mexican-American) aged 4-6 years. Each child received a battery of four tests. In each session a cognitive and an affective (intrapersonal) test were administered. The results showed that the relationship between cognitive and intrapersonal competence was generally low and that academic self-concept was unrelated to both cognitive measures. The researchers concluded that children are not internalizing and relating different aspects

of competence. They suggest this is not surprising in that these children are still in the preoperational stage where differentiation of self from others and stabilization of self-feelings are still developing and are highly content-dependent.

Gender

Shirley (1977) cites research (Felker, 1974; Baumrind, 1972) to suggest that self-concept and achievement were more related in boys than girls. Girls' self-concept was found to have little or no relation to their academic success, while boys self-concepts were more closely related to their intelligence scores and intellectual performance. In one study, a sample of 27 black preschoolers showed a negative relationship between perceived competence and academic self-concept (Burns, Boals & Pruett, 1987). Yet in this same group of children, between perceived self-concept and the Personal Inventory (actual achievement) a correlation of .3 for black and male subgroups was found. One explanation for this difference, according to the researchers, was that blacks and males receive more evaluative feedback than girls and other minorities, thus enhancing the congruence between perceived and actual competence.

In the meta-analysis by Hansford and Hattie (1982), it was found that the relationship between measures of self-concept and measures of performance/achievement was similar for males and females.

Age

In the study by Breeding, et. al.(1982) concerning the relationship

between the Perceived Competence Scale and actual achievement on the Personal Inventory of young children, a low correlation of .18 was found for the total sample. This information fits nicely with Harter's (1982) explanation that scores from the third grade to the sixth grade suggest that children become increasingly better able to make judgments about their competence as they get older. Campbell (1981) found that in young children ages 4-5, age was largely unrelated to competence measures.

Intelligence

Wylie (1979) reports that correlations obtained from a variety of self-concept measures and a variety of intelligence measures tend to be low and often insignificant. In the Hansford and Hattie(1982) study, the mean correlation between self-measures and intelligence measures was .18 with only 3.2 percent of the variance between the variables. This is considered a small relationship.

Statement of the Hypotheses

Since young children are being placed in group care settings outside the home at earlier ages, and since black pride has received more attention in the near past, this study investigated the relationship between self-concept and general cognitive abilities in young black children. The major hypothesis guiding the study was: there is no significant relationship between self-concept and general cognitive abilities in black, low-income preschool children.

Methods

Subjects

The subjects for this study were 89 (46 boys and 43 girls) lower socioeconomic black preschool children enrolled in three state operated day care programs in the mid-south during the 1989-1990 school year. They ranged in age from 3 to 5 years. None of the children were mentally or physically handicapped or known to be emotionally disturbed.

The children attended publically supported day care centers that were located in public project housing areas. The centers open from 7:00 a.m. - 5:00 p.m. with children beginning to leave around 2:30 p.m. All children lived in the surrounding area and were admitted to the day care if their parents were within the allotted income range. The program which the majority of the subjects (55 out of 89) attended consists of five classes grouped by age. Classes were held in a large open-spaced room, minimally equipped for preschool-aged children. The program has five teachers, one for each class. All teachers hold a high school diploma. Two teachers have received 1-2 years educational training. Their experience with children range from 18 years to less than one year.

Instruments

(1). Preschool Self-Concept Test (PS-CPT) was designed to determine a child's self-concept and ideal self-concept. It consists of 10 plates with paired pictures on each plate. Developmentally appropriate, the pictures represent characteristics which preschool children may attribute to themselves. Pictured characteristics are: dirty vs. clean; active vs. passive;

aggressive vs. nonaggressive; afraid vs. unafraid; strong vs. weak; acceptance of male figure vs. rejection of male figure; unhappy vs. happy; group rejection vs. group acceptance; sharing vs. not sharing; dependence vs. independence. They represent ten positive characteristics and ten negative characteristics. The scoring range of 10 is based on the number of congruences between self-concept and ideal self-concept. The rational for the development of each plate was determined by the developer of the test (Woolner, 1966) according to middle class cultural demands, research in the field of child development and personal experience as a preschool director and teacher. The test is composed of four separate but comparable subsets for Black and Caucasian boys and girls, depicting the ten characteristics. A validation study was conducted, using the PS-CPT, which compared emotionally healthy and emotionally disturbed children. The study showed that emotionally disturbed children viewed themselves differently than emotionally healthy children. Normal children saw themselves as having more positive characteristics than emotionally disturbed children. Congruence between self and ideal self-concept was 80% to 100% in the emotionally healthy group, whereas congruence between self and ideal self-concept was 20% to 0% in the disturbed group. In the development of PS-CPT, the test was administered to children at three different times, the correlations indicated that the test was consistent without much change throughout (Woolner, 1966). All correlations were found to be above .80. A correlation study between the Draw-A-Man Self-concept Test and the PS-CPT was not significant ($r = .21$) although it approached the .05 significant level ($p < .231$).

According to the developer of the PS-CPT (personal communication, 1990), the test has been used in 47 states and 10 foreign countries.

(2). The McCarthy Scale of Children's Abilities was designed to measure general cognitive abilities in young children (ages 2.5-8.5) as well as their strengths and weaknesses in a number of ability areas. The test consists of eighteen subtests that makeup six scales: verbal, perceptual-performance, quantitative, memory, motor, and general cognitive. The general cognitive index is a composite of the verbal, perceptual-performance, and quantitative scales. The abilities measured include verbal ability, nonverbal reasoning ability, number aptitude, short-term memory, and coordination. For the purpose of this study, the general cognitive index (GCI) was used.

The standardization sample for the MSCA contained 1032 children which closely matched the 1970 census data. The sample was stratified on the basis of sex, age, color, geographic region, father's occupation, and urban-rural residence.

The McCarthy manual provides information on the internal consistency and stability of test scores as obtained from the sample. The internal consistency coefficients for the GCI averaged .93 across 10 age groups between 2.5 and 8.5 years. Mean reliability coefficients for the other five index scales ranged from .79 to .88.

Stability is a key reliability issue for preschool children due to fluctuation in test behaviors. The manual includes information on test-retest reliability over a month interval on a sample of 125 children grouped into three age levels. The average coefficient for the GCI was .90 with correlations ranging

from .69 to .89 for the other scales. The manual presents limited evidence about the validity of MSCA. The only concurrent validity study cited covered a restricted age range (6-7 years) in a small sample (n=35) and reported correlations of .81 and .71, respectively, between the GCI and IQ's obtained on the Stanford-Binet Intelligence Scale and Wechsler Preschool and Primary Scale of Intelligence.

Overall, the MSCA was carefully designed and standardized. It has excellent psychometric properties with reliable and stable scores and the test appears to be nondiscriminatory with regard to race.

Design and Procedure

The design applied in this study was an ex post facto correlation design. No variables were manipulated. Before testing started, parental permission to test children in the program was obtained through a signed permission form. All tests were administered by two trained early childhood specialists at the day care center. Each child was removed from the class and individually administered the PS-CPT and the MSCA. To avoid potential effect of the MSCA on the PS-CPT, the self-concept test was administered before the cognitive abilities test. All testing was done within a three-week period. The PS-CPT and the MSCA yielded a composite score for each of the total 89 children in the program. A Pearson r was computed to determine the correlation coefficient between scores on the PC-CPT and the MSCA at a confidence level of .05.

Results and Discussion

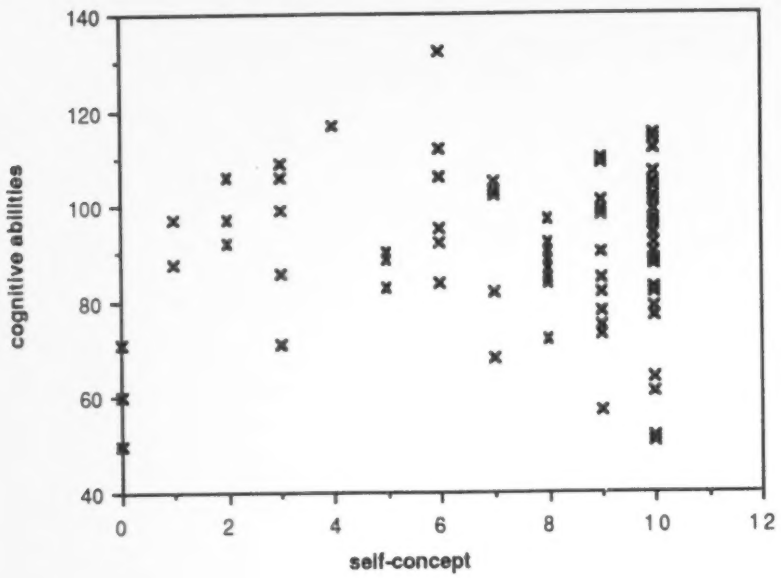
Subjects (n=89) in this study obtained a mean score on the MSCA of 91.25 with a standard deviation of 15.67 and a mean score on the PS-CPT of 7.61 with a standard deviation of 2.99 (see Table 1 & Graph 1). The Pearson correlation coefficient between scores on the MSCA and the PS-CPT was .07 (r= .16, df= 87, p>0.05); thus, no significant relationship between MSCA and PS-CPT scores was found.

Table I. Relationship between Self-Concept and Cognitive Abilities

	n	X	STD	Y	STD	r
Girls	43	7.79	2.45	92.91	15.03	-0.16
Boys	46	7.43	3.43	89.70	16.25	0.21
Boys & Girls	89	7.61	2.99	91.25	15.67	0.07

X - self-concept Y - cognitive abilities

Graph 1. Relationship between Self-Concept and Cognitive Abilities

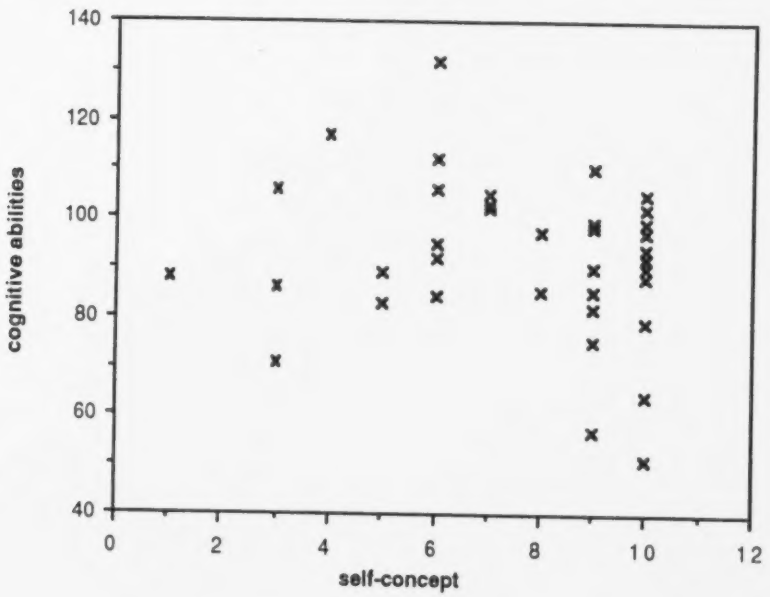


Therefore, the research hypothesis that there was no significant relationship between self-concept and general cognitive abilities in black, low-income preschool children was confirmed. The results of this study were consistent with prior research in general on the relationship between self-concept and cognitive abilities in young children (Hansford and Hattie, 1982). Also, the results (see Table 1, Graph 2 and Graph 3) analyzed by sex seem to suggest that there is a difference in the relationships between self-concept and general cognitive abilities in boys and girls. The correlation coefficient in boys is .21 (df=44, $p>0.05$). This indicates that in boys there exists a slightly, though not significant positive relationship between self-concept and general cognitive abilities. In contrast, the correlation coefficient in girls is -.16 (df=41, $p>0.05$) which indicates there may exist a

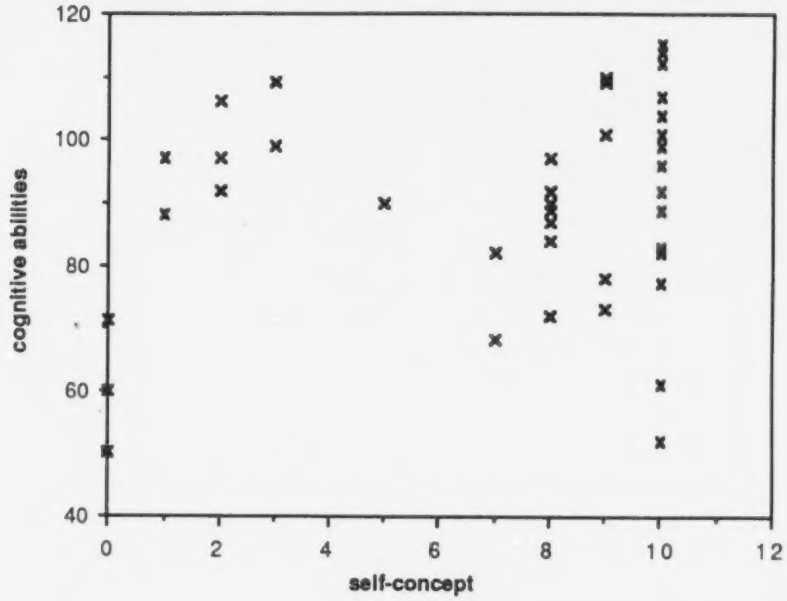
slightly negative, though not significant relationship between self-concept and general cognitive abilities. This was also consistent with previous research on gender difference in self-concept and general cognitive abilities (Hansford and Hattie, 1982).

Overall, the results of this study support the general finding that there is no significant relationship between self-concept and academic performance or cognitive abilities in young children. Young children do not have a stabilized self-concept as yet, and they are still in the developmental stage. Their self-concept is often situation-dependent and event-dependent. That is, their perception of self is affected by immediate feedback from the immediate situation. Children at this stage of preoperational development still have difficulty generalizing an abstract conceptof self.

Graph 2. Relationship between Self-Concept and Cognitive Abilities in Girls



Graph 3. Relationship between Self-Concept and Cognitive Abilities in Boys



In future research, this study suggests that the following areas should be considered:

(1). Young children's self-concept is situation-dependent and event-dependent, and it changes over time from context to context. The PS-CPT was developed in the 60's and all characteristics were selected mainly based on white middle class culture. What is considered negative to the white middle class culture may be positive to the black of low socioeconomic culture. Some characteristics considered then negative may be positive in the 80's and 90's. It is imperative that a culturally as well as developmentally appropriate self-concept scale be developed.

(2). Self-concept has many different dimensions such as academic self-concept, social self-concept, physical self-concept and so on. The PS-CPT is primarily socially-emotionally oriented with few other

components. Future research should distinguish a child's global self-concept and his/her specific dimensions of self-concept.

(3). At which developmental stages do children begin to see themselves as others perceive them? At what age does a child's self-concept begin to differentiate (i.e., academic competence or physical attractiveness) and how does this relate to educational strategies?

(4). Cognitive ability is a term widely used yet not-so-well defined. How is it different from intelligence? What is the relationship between cognitive ability and academic achievement or performance? How should we assess young children's cognitive abilities? Future research should address these questions.

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